

Priority Sheets

Mill Brook Watershed Surveys
(Indian Lake, Mill Brook, and Salisbury Pond's Watershed)
May 11, 12, 18, 19, 2002

Problems Found	Natural Resources and Assets Found	Priorities for Action
<p>Hancock Hill – Sections 1 & 2 <i>Mike Zylich and Mike Ohl</i></p> <ol style="list-style-type: none"> Erosion Control: <ul style="list-style-type: none"> ? New construction #28 Westwood Drive, completely disturbed site, poor erosion controls. Still some soil piles in road uncovered. ? New construction on Grove St (Habitat for Humanity) - very steep slope created to establish level house site; concern for stability, close to Indian Lake and catch basin. ? Sediment buildup at four outfalls Private unpaved/dirt roads – potential runoff problems: <ul style="list-style-type: none"> ? Diana St. ? Gaylord St. ? Waycross St. Full Catch Basins: <ul style="list-style-type: none"> ? Nottingham Rd (off Forest) at end ? Nottingham Rd near Hazelwood St. Loss of Open space – 8 acres of woods threatened with development by Assumption College at Bald Hill. Boat ramp is in need of repair, perhaps restrictions on access to control personal water craft. 	<ol style="list-style-type: none"> Large tracks of open space present. Morgan Park – good access. Established residential areas with well maintained properties. 	<ol style="list-style-type: none"> Erosion control BMPs at construction sites and outfalls. Repair drainage to prevent runoff from private unpaved / dirt roads. Clean full / clogged catch basins. Preserve open space threatened at Bald Hill. Talk with College on environmental education partnerships Repair boat ramp at Morgan Park in poor condition.
<p>Nelson Place – Section 3A <i>Paula Imbergamo, Pat Taylor and Keith Taylor</i></p> <ol style="list-style-type: none"> Erosion Control - Runoff from Assumption fields & property and lawn clippings near streams. Loss of Open Space - Potential clearing of Assumption College land at Bald Hill. 	<ol style="list-style-type: none"> Redwing Brook has unimpaired wetlands & healthy vegetation. 	<ol style="list-style-type: none"> BMPs to control runoff from Assumption College fields. Preserve open space from potential clearing of Brooks Woodlands on Bald

<p>3. Wetlands - Poor water quality – sediments, odor, algae problem: ? Inlet stream to Kiver Pond. ? Kiver Pond.</p> <p>4. Kiver Pond dam / sluice in poor condition – private ownership.</p> <p>5. Clogged culvert pipe at #7 Phoebe Way.</p> <p>6. Private, dirt streets – runoff problems: ? Pelican Ln. ? Knapp Ave. ? Phoebe Way</p>		<p>Hill.</p> <p>3. BMPs for sediments, poor water quality and water flow in Kiver Pond and tributaries.</p> <p>4. Repair of Kiver Pond Dam.</p> <p>5. Repair of culvert pipe on private street</p> <p>6. Repair drainage to prevent runoff from private unpaved / dirt roads.</p>
<p>Nelson Place – Section 3B & 3C <i>Beth Proko, Bonnie Oliver, Bob Gates</i></p> <p>1. Clogged storm drains: ? Corner of Diana Rd & Barnstable Rd.</p> <p>2. Private unpaved/dirt roads: ? Diana Road.</p> <p>3. Erosion Control ? Broken pavement. ? Habitat for Humanity site near Morgan Park – terrible erosion problems. ? Sediment load – end of brook from Kiver Pond</p> <p>4. Loss of Open Space from development of Former Brooks Property on Bald Hill by Assumption College.</p> <p>5. Wetlands - Weeds may be coming from Kiver Pond to Indian Lake.</p> <p>6. Blocked culvert pipe at 630 Grove St.</p>	<p>1. Wildlife at Kiver Pond.</p> <p>2. Assumption – former “Brooks Property” – wildlife, wetlands, wooded areas, open meadow.</p> <p>3. Morgan Park.</p> <p>4. Good flow of water through Delaney Brook into Indian Lake.</p>	<p>1. Repair clogged storm drains.</p> <p>2. Repair drainage to prevent runoff from private unpaved / dirt roads. Eroding private roads have potential to harm lake.</p> <p>3. BMP needed behind Habitat homes and for other sediment control.</p> <p>4. Preserve open space from potential development of Brooks Property on Bald Hill.</p> <p>5. Weed Control BMP to water quality in Kiver Pond and Delaney Brook.</p> <p>6. Repair pipe blockage at 630 Grove St.</p> <p>7. Lack of education among homeowners about buffers,</p>

		landscaping, fertilizer.
2.2.1.1.1. No Sections 4 or 5		
Winter Hill / St. Peter-Marion – Sections 6 & 7: <i>Linc MacDonald</i> 1. Erosion Control: <ul style="list-style-type: none"> ? Runoff of fertilizers from lawns – many are very lush in this area. ? Problems at construction sites: <ul style="list-style-type: none"> ? Winter Heights development at Azalea Drive. ? Catch basins at: 10 Azalea Dr; 13, 18, 22 and 24 Oriental St; 12 Rainbow St and 18 Jasmine Rd no filter fabric under catch basins. ? Also large pile of uncovered soil stockpile adjacent to 34 Oriental St and directly adjacent to catch basin with little haybales and silt fence. ? Northcrest development at Saffron Drive ? Sand & silt getting into storm drains & small tributaries. 2. Wetland - Behind 107-111 Holden St. wetland filled by developer and abandoned cars left on property.	1. Open Space	<ul style="list-style-type: none"> 1. Education needed for homeowners & businesses on fertilizers and runoff from lawns. BMPs for erosion at construction sites and sediment in streams and storm drains. 2. Restoration of impacted wetlands behind 107-111 Holden St. Follow development through conservation commission oversight. 3. Not stringent enough supervision & enforcement around construction sites (both residential & commercial).
North Worcester – Section 8: <i>Maria Leitano-Pina, Isada Martignetti, and Peter Coffin</i> (comments from Bob Gates) 1. Erosion Control – <ul style="list-style-type: none"> ? Construction sites at east end of Estabrook Dr. ? Retaining wall near railroad in poor condition, good site for BMP 	<ul style="list-style-type: none"> 1. Good habitat 2. Nice shade – Estabrook Estates 3. Pretty wildflowers 4. Connected open 	<ul style="list-style-type: none"> 1. BMPs for erosion at construction sites and sediment in streams and storm drains. Possibly for

<ul style="list-style-type: none"> ? Sediment buildup at Ararat Brook Inlet. 2. Abandoned cars (some may be on private land) – Smith Ln. 3. Trash/Litter <ul style="list-style-type: none"> ? Grass clippings & yard waste dumped at end of Smith Ln and Stetson Rd. 4. Wetlands - Development at Estabrook Dr. – residents leveling their yard with fill – over 8' now. 	<p>space Nicks Woods.</p>	<p>detention pond for sediment control.</p> <ul style="list-style-type: none"> 2. Remove abandoned cars (some may be on private land). 3. Remove trash. Lack of local site to put clippings and landscaping debris for composting. 4. Follow development through conservation commission oversight.
<p>Indian Hill / Bancroft School – Section 9: <i>Peter McKone</i></p> <ul style="list-style-type: none"> 1. Erosion Control - Development on Indian Hill – developer used old approvals, created steep slopes & serious erosion problems. 2. Given the history of the Indian Hill development, potential for more erosion & sedimentation problems. 3. Potential loss of additional open space on Indian Hill. 	<ul style="list-style-type: none"> 1. Other large facilities in section (YMCA & Bancroft School) have well maintained facilities & grounds. Bancroft has just completed BMPs for stormwater from roofs & parking lots. 	<ul style="list-style-type: none"> 1. Given Indian Hill development history, need to watch for potential problems during & after construction: <ul style="list-style-type: none"> ? Sedimentation leaving site. ? Soil tracked onto adjacent roadways from site. ? Missing/failing erosion controls. ? Unstable slopes. ? Detention ponds failing to halt sedimentation away from site. 2. Currently, developer is using BMPs in response to DEP, Worcester DPW & Con Com – results of sediment control efforts are currently good. 3. Preserve open space from development
<p>Upper Weasel Brook - Section 10: <i>Brian and Margarita Duval and Leona Peace</i></p> <ul style="list-style-type: none"> 1. Erosion Control – 	<ul style="list-style-type: none"> 1. A playground and 	<ul style="list-style-type: none"> 1. Address the erosion

<ul style="list-style-type: none"> ? Broken pavement leading to sand (erosion) runoff throughout basin. ? Much of the section is developed, paved. Broken pavement. Steep hills. <ol style="list-style-type: none"> 2. Clogged storm drains. 3. Loss of Open Space – <ul style="list-style-type: none"> ? Abandoned industry off West Mountain St. West Boylston St.? Large open paved parking areas! ? Train tracks and industry limit the usage and access to Weasel Brook. ? 60% of the section industrial, residential, or otherwise heavily developed. 4. Private unpaved dirt roads. 5. Abandoned tractor-trailer trucks on Idala St. 6. Street Sweep - Sand in parking lots at Kendrick Fields from Construction. 	<p>ballfields exist just south of this section as marked on the topo map.</p>	<p>issue! Sand everywhere... roadwork by DPW.</p> <ol style="list-style-type: none"> 2. Storm drains were pretty clogged. 3. Removal of large open parking lots, large abandoned-looking industry and plantings/vegetation to gain additional open space. Open up access to waterways. 4. Repair drainage to prevent runoff from private unpaved / dirt roads. 5. Remove abandoned trucks. 6. Sweep parking lots at Kendrick Field.
<p>Burncoat – Section 11: <i>Michael Zylich</i></p> <ol style="list-style-type: none"> 1. Loss of Open Space - Quinsigamond Community College takes up about ¼ of area and has large areas of paved parking lots and large buildings. 2. Erosion Control – Quinsigamond College Currently undergoing major construction. 3. Private, dirt streets – runoff problems: <ul style="list-style-type: none"> ? Assumption Ave. ? Trottier Street. 	<ol style="list-style-type: none"> 1. Quinsigamond Community College, Greendale School and Burncoat Street School. 2. Greendale public Library. 3. Great established neighborhoods 	<ol style="list-style-type: none"> 1. Removal of large open parking lots, large abandoned-looking industry and plantings/vegetation to gain additional open space. 2. Monitor development activities in the section and make sure proper BMPs remain in place. 3. Repair drainage to prevent runoff from private unpaved / dirt roads. 4. Talk with College on environmental education partnerships.

<p>Lower Weasel Brook - Section 12: <i>Steve Vickstrom</i></p> <ol style="list-style-type: none"> 1. Erosion Control - Much of the area is developed industrial property. During rain events, much water from parking lots & roof drains enters the streams. Sedimentation is main problem to be addressed. 2. In general, area appeared reasonably clean - no major problems observed. 	<ol style="list-style-type: none"> 1. Businesses keep their properties reasonably clean, promptly sweeping road salt/sand after road treatments. 2. Ducks frequently seen in ponds. 3. City of Worcester has completed renovation of Kendrick Park ball fields and swimming pool. 4. Wetlands behind Holmes & Shusas Greenhouse protected by runoff barriers, fabric/hay bales and stakes. 	<ol style="list-style-type: none"> 1. Sedimentation problem has been addressed downstream at Salisbury Pond. A grant will fund a sedimentation-settling device BMP to remove solids before they enter Salisbury Pond. Good for Salisbury Pond but does nothing for upstream Weasel Brook.
<p>Dodge Park / Greendale – Section 13: <i>John Paul Marosy</i></p> <ol style="list-style-type: none"> 1. Erosion Control – <ul style="list-style-type: none"> ? Automobile-generated runoff from highways and most parking lots in retail & industrial areas. ? Monitor retail and industrial users (auto body, plastic plants, etc.) to detect pollution emissions. 2. Clogged drains at shopping centers, trash entering streams. 3. Loss of Open Space – <ul style="list-style-type: none"> ? Too much pavement – oversized/ underused parking lots. ? Tributaries are covered, people aren't aware of them. 4. Private, dirt streets – runoff problems: <ul style="list-style-type: none"> ? Wildey Street. ? Upper Dodge Ave. 	<ol style="list-style-type: none"> 1. Good habitat at Dodge Park. Clear-running brook and large areas of open space. 2. Weasel Brook running clear – signs of beaver activity in Norton areas (recently felled tree). 3. Higgins Armory Museum. 	<ol style="list-style-type: none"> 1. Monitor auto body and plastic plants for erosion and pollution. 2. Clean clogged drains at shopping centers, trash entering feeder streams. 3. Removal of large open parking lots, large abandoned-looking industry and plantings/vegetation to gain additional open space. Expose more of Weasel Brook to view to heighten people's awareness of this important stream. 4. Repair drainage to prevent runoff from

		private unpaved / dirt roads.
<p>Sears Island & Indian Lake East – Section 14: <i>Ed Brank and Richard Collamore</i></p> <p>1. Erosion Control –</p> <ul style="list-style-type: none"> ? Parking lot at Indian Lake Beach: runoff from north side of lot is eroding a channel across beach and into lake. ? Sedimentation at Hastings Ave, Sherburne Ave outfalls. <p>2. Culvert Repair –</p> <ul style="list-style-type: none"> ? Sherburne Ave. storm drain culvert in need of repair, area around sides of headwall eroding into lake. ? Lack of flow around Sears Island due to culvert under Sears Island Causeway. <p>3. Private unpaved dirt road - Hastings Ave. from Proctor St. to Poplar St. is a dirt road running directly along edge of lake allowing significant sediment runoff.</p> <p>4. Loss of Open Space - About 50% of section is paved parking areas for commercial and industrial businesses. All over the former Mill Brook.</p> <p>5. Boat Ramp Control - Control of personal water craft with noise, pollution, speeding, personal safety.</p>	<p>1. The Indian Lake Beach has long been a much used recreation area in the summer.</p> <p>2. Hastings Ave. has been sewered.</p>	<p>1. Erosion control BMPs. Redirect runoff to a stone lined channel and then spread to grassed area. Install BMPs to control sedimentation.</p> <p>2. Repair headwall and clean area out of sand and debris below pipe and replace bridge and culverts at Sears Island</p> <p>3. Repair drainage to prevent runoff from private unpaved / dirt roads and pave Hastings Ave. Petition City Council (Public Works) to improve this stretch of road by paving and directing runoff to grassed areas or catch basins.</p> <p>3. Removal of large open parking lots, large abandoned-looking industry and plantings/vegetation to gain additional open space.</p> <p>4. Control use of boat ramp and or use of personal water craft on the lake.</p>

<p>Little Indian Lake – Section 15: <i>Warren Page</i></p> <ol style="list-style-type: none"> 1. Clogged catchbasins: <ul style="list-style-type: none"> ? Grove St. at the Indian lake causeway. ? Indian Lake Pkwy. at Grove St. ? Huntington Ave. at West Boylston St. ? North St. at Grove St. ? Glennie St. behind Percie's Store 2. Damaged culvert – between Indian Lake and Little Indian Lake. 3. Erosion Control- Uncovered soil stockpiles at Boston Billiards #454 Grove Street and Woodberry Paper Company across Street from #454 Grove Street near catchbasins. 	<ol style="list-style-type: none"> 1. Habitat. 	<ol style="list-style-type: none"> 1. Repair clogged catchbasins. 2. Repair damaged culvert. 3. Cover soil stockpiles
<p>Salisbury Pond – Section 16: <i>Mike Zylich and Lynne Welsh</i></p> <ol style="list-style-type: none"> 1. Erosion Control – <ul style="list-style-type: none"> ? Multiple stormwater pipes discharging sediment, trash, sewage and other nutrients. ? Dense sedimentation along shoreline. ? Bank of pond capstones displaced. ? Direct runoff to pond from roads & parking lots. ? Sewage odor from two pipes (stormdrain near bandstand, mill brook outlet). 2. Wetlands - Dense sedimentation and vegetation along shoreline. 3. Trash – <ul style="list-style-type: none"> ? Input from stormdrains and blown in from park. ? Pet waste in park entering pond. 	<ol style="list-style-type: none"> 1. Institute Park and Salisbury Pond. Canoe access, open space protected, trails and wildlife present. 2. WPI and students and studies. 3. Mill Brook Task Force. 	<ol style="list-style-type: none"> 1. Stop infiltration of sediment and nutrients through BMPs. Park improvements and bank/capstone replacement and stabilization. 2. Sediment and vegetation removal and dredging. 3. Pick of trash. Need for education and outreach.
<p>Prospect Hill / WPI – Section 17: <i>Mike Zylich and Mike Ohl</i></p> <ol style="list-style-type: none"> 1. Erosion Control – Antiquarian Society along Park Ave. – 	<ol style="list-style-type: none"> 1. Prospect Hill (Bancroft Tower) – 	<ol style="list-style-type: none"> 1. Maintain erosion control BMPs.

poorly maintained. 2. Catch basins full: ? Beechmont Ave. ? Commercial areas along Grove St. in parking lots (behind buildings) are susceptible to pollution problems and contamination. 3. Private unpaved dirt road off Salisbury St. (across from Newton Ave.) – 4. Wetland – ? #362 Salisbury St. Brush being dumped into an isolated wetland area along side of shared driveway. ? #19 Butternut Hill Road off Salisbury – appears that trees are being cleared/cut adjacent to an isolated wetland area (potentially a vernal pool). 5. Street Sweeping - Bancroft Tower Road – need to sweep streets (vegetation debris).	open space/park but need to enhance its use/access. 2. Established residential area with well-maintained properties.	2. Clean clogged catch basins. 3. Repair drainage to prevent runoff from private unpaved / dirt roads 4. Repair wetlands apparent clear-cut on Newton Ave and Butternut Hill Rd. 5. Street sweeping.
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MILL BROOK WATERSHED SURVEY REPORT

I. Final Action Plan

Based on the May 2002 Watershed Survey of the Mill Brook Watershed, including Indian Lake, Mill Brook & Salisbury Pond and the June 2002 Action Planning Meeting, facilitated by the Riverways Programs

A. REPORTING

1. To the Conservation Commission

- a) Disturbed land with poor erosion controls at new construction site #28 Westwood Drive. (Section 1)

City Conservation Commission Response: This project did not fall under the Conservation Commission's jurisdiction however staff did visit the site and request additional erosion controls. New home construction still some soil piles in road uncovered as of November 2002.

- b) Homeowner leveling his yard with fill at the end of Estabrook Drive. Now up to 8 feet high with new fill. (Section 8)

City Conservation Commission Response: Homeowner has applied with the Conservation Commission and received a negative determination.

- c) Erosion controls poorly maintained at development at the American Antiquarian Society along Park Avenue. (Section 17)

City Conservation Commission Response: Conservation Commission looked at this site but did not see a problem however staff will take a look.

- d) Trees clear-cut adjacent to an isolated wetland area (potentially a vernal pool) adjacent to #19 Butternut Hill Road off Salisbury Street. (Section 17)

City Conservation Commission Response: Conservation Commission did not have a specific address. Staff went there but could not see any work being done from the road. We need an address then a phone call can be made to the owner and a site visit scheduled. Provided address in November 2002 and trees were being cut down in area of isolated wetlands.

- e) Yard waste piled along top of hill above isolated wetland area on private driveway to #362 Salisbury St. (Section 17)

City Conservation Commission Response: Conservation Commission needs something more specific on this. Is this affecting a wetland or some other protectable resource? Provide additional information in November 2002 that brush is being dumped into an isolated wetland area along side of shared driveway.

- f) Status on potential development tree clearing and regrading of 8-acres of open space area off Romola Road and Nelson Place owned by Assumption College. (Sections 1, 2 and 3)

City Conservation Commission Response: The Conservation Commission has not seen anything on this project. No RDA or NOI. We do not monitor the progress of a project in the planning stages.

- g) Wetland filling behind 107-111 Holden Street needs restoration actions. (Sections 6 and 7)

City Conservation Commission Response: The Conservation Commission is working with the City Law Department on this matter. The owner has been before the commission for years and has recently been before us this spring.

- h) Wetland filling of brush at end of Smith Lane near Ararat Brook. (Section 8)

City Conservation Commission Response: Staff will check on this.

- i) Clarification on whether homeowners can clear brush and mow lawn along edge of streams and lakes and whether they can repair manmade culvert on private property.

City Conservation Commission Response: Large scale clearing of vegetation and repairs to culverts or diversion dams should definitely go through Conservation Commission. Any routine landscaping or maintenance does not need approval.

2. To the Conservation Commission and the Department of Public Works

- a) Erosion issues at Habitat for Humanity development on Grove Street across from Morgan Park. (Section 1)

? Forty feet of loose fill held back by a 4-foot wall.

? Steep unstable slopes with potential for landslide. Needs to be re-engineered.

? Erosion problems – close to catch basins, imminent danger of sedimentation

City Conservation Commission Response: Conservation Commission staff spoke with the contractor who agreed to fix the erosion controls.

City DPW Response: This project did not fall under the DPW's jurisdiction.

- b) Clogged storm drains at shopping centers, trash entering feeder streams. (Section 13)

City Conservation Commission Response: Conservation Commission does not have jurisdiction.

City DPW Response: This project did not fall under the DPW's jurisdiction since the basins are on private property.

- e) Parking lot at Boston Billiards, 454 Grove St, has large, loose piles of dirt. (Section 2)

City Conservation Commission Response: Conservation Commission staff went out and talked with the contractor on June 27, 2002 - the piles were covered the next day. Piles have since been removed as of December 2002.

City DPW Response: This project did not fall under the DPW's jurisdiction.

- f) Woodberry Paper Company across from #454 Grove Street (Chadwick Square) has large pile of loose dirt, no erosion controls. (Section 2)

City Conservation Commission Response: Conservation Commission needs an address? Address provided and pile has since been removed as of December 2002.

City DPW Response: This project did not fall under the DPW's jurisdiction.

- g) Excess sedimentation and lawn clippings near streams from Assumption College sports fields into feeder stream to Kiver Pond causing little to no flow in stream. (Section 3)

City Conservation Commission Response: Conservation Commission needs specifics here. There is no prohibition to dumping lawn clippings near streams (although it's a not a good idea). What is causing the sedimentation? This describes just about every stream in the city.

City DPW Response: This project did not fall under the DPW's jurisdiction.

- f) Erosion problems at Erosion problems at Winter Heights development at Azalea Drive and Northcrest development at Saffron Drive construction sites with sand and silt getting into stormdrains and small streams. Erosion of sand and soil into catchbasins throughout both development sites including catch basins at: 10 Azalea Dr; 13, 18, 22 and 24 Oriental St; 12 Rainbow St and 18 Jasmine Rd no filter fabric under catch basins. Also large pile of uncovered soil stockpile adjacent to 34 Oriental St and directly adjacent to catch basin with little haybales and silt fence. (Section 6 and 7)

City Conservation Commission Response: City Conservation Commission Response: Staff will check on this but it is helpful to have specifics such as a lot address and location of the catchbasin. Addresses provided on November 2002.

City DPW Response: This project did not fall under the DPW's jurisdiction.

- g) Update status on development of Indian Hill, steep slopes creating erosion issues and sedimentation into Weasel Brook and Salisbury Pond. (Section 9)

City Conservation Commission Response: The City staff is working with DEP who is closely monitoring this project.

City DPW Response: This project did not fall under the DPW's jurisdiction.

- h) In general, stricter enforcement wanted in terms of Code violations and Conservation Commission issues. It was noted that lack of staff is causing this problem. Send a letter to the city manager asking for more inspectors in building/code and for conservation commission issues.

City Mayor Response: Discussed need for additional enforcement personnel and Mayor will look into it.

3. To the Department of Public Works

- a) Clogged catch basins found in many sections: Nottingham Road near Forest Street and near Hazelwood Street, Diana Street, Barnstable Road, Upper Brooks Street/West Mountain Street area, Grove Street/Lake causeway, Indian Lake Parkway/Grove Street, Huntington Avenue/West Boylston Street, North Street/Grove Street, Glennie Street, Beechmont Avenue, Grove Street parking lots.

City DPW Response: All identified catch basins have been cleaned out or will be cleaned out in the near future.

- b) Clogged/Repairs culverts at: 7 Phoebe Way, 630 Grove Street, Sherburne Avenue (needs repair), Sears Island (needs to be lowered), Indian Lake / Little Indian Lake (needs to be lowered), Salisbury Pond (Salisbury St side near bandstand sewer odors).

City DPW Response: Phoebe Way is private street (homeowners responsible); Sherburn Ave will be repaired in 319 Grant; Sears Island is not in near future capital improvement plan; Indian lake/Little Indian Lake culvert is Mass Highway Department; Salisbury Pond drain has been recently repaired.

- c) Catch basins off Diana Street are clogged, but they are better left clogged in that unpaved part of system (reduces sedimentation from dirt roads). (Section 1)

City DPW Response: Diana Street is unpaved private road and DPW feels it is better to leave catch basin full so no more sand will enter stormwater system.

- d) Sweep streets and parking lots around: Kendrick Field, Brook Street/West Mountain Street area (Section 10) and Bancroft Tower Road (section 17).

City DPW Response: Kendrick Field should be address by Parks and Recreation Department and other street are done under the semi-annual street sweeping program.

- e) Unpaved Roads causing major source of nutrients and sedimentation: Hastings Avenue, Diana Street, Gaylord Street, Waycross Road, Phoebe Way, Pelican Lane, Knapp Avenue, Upper Brooks Street and West Mountain Street area.

City DPW Response: All streets are unpaved private road. Can be switched to public roads with petition to the City then get on paving list.

Residents of Phoebe Way are raising money to pave their road.

- f) Address direct runoff from City owned parking lots and streets into waterbodies.

City DPW Response: Fire Station parking lot will be redesigned during the construction of new training facility and vegetative buffer placed along the pond.

- g) Littering/yard waste at: Smith Lane (at end), Stetson Avenue (near RR tracks)

City DPW Response: Referred to Grime Watch program.

- h) Maintenance and ownership issues of Kiver Pond and Kiver Pond Dam.

City DPW Response: Kiver Pond and Kiver Pond dam owned by the Armenian Church.

ILWA is meeting with the Armenian Church in December to discuss possible improvements to Kiver Pond

- i) Daylighting portions of Mill Brook and Weasel Brook.

City DPW Response: Reviewing plans to daylight part of Mill Brook near Harding Street.

Reviewing plans to daylight part of Beaver Brook near Foley Stadium. Have been studies done on daylighting additional sections of Weasel Brook and Mill Brook and found to be not feasible.

4. To the Parks Department and Department of Public Works

- a) Inspect parking lot at Indian Lake Beach. Runoff from north side of lot is eroding a channel across the beach and into the lake.
- b) Sweep streets and parking lots around Kendrick Field

5. To the Mayor's Office / Mayor's Hotline/ City Manager

- a) Four abandoned vehicles need to be moved from one lot at the end of Smith Lane, may be blocking access to emergency vehicles. (Section 8)

City Mayor Response: Will look into report and remove if illegal.

- b) Several abandoned trucks (semis) at Idala Street (Section 10).

City Mayor Response: Will look into report and remove if illegal.

- c) Several abandoned vehicles on neglected properties between 107 and 111 Holden Streets.

City Mayor Response: Will look into report and remove if illegal.

- d) Look into developing local bylaws relative to clearcutting trees in open space areas related to potential development.

City Mayor Response: Mayor and City Council Land Use Committee will look into it.

- e) In general, stricter enforcement wanted in terms of Code violations and Conservation Commission issues. It was noted that lack of staff is causing this problem. Need more inspectors in building / code and for conservation commission issues.

City Mayor Response: Discussed need for additional enforcement personnel and Mayor will look into it.

- f) Preserve last remaining open space areas in the City.

City Mayor Response: Mayor and City Council Land Use Committee have open space plan for City.

- g) Redevelopment of abandoned industrial areas of the City and removal of large paved parking lots and replacement with pervious surfaces or vegetation.

City Mayor Response: Mayor and City Economic Development Department have Brownfields plan for City.

- h) Continued public education efforts regarding environmental issues.

City Mayor Response: Mayor and City Council and administration will continue to education through public meetings and water/sewer newsletters.

6. To the City Council

Presentation of this action plan with a complete final report of this survey, coinciding of an award from the Lake/Watershed Stewardship Program (Riverways Programs, Massachusetts Department of Fisheries, Wildlife and Environmental Law Enforcement) in recognition of the importance of these waterways and the excellent work of the volunteers and organizations involved.

7. To the Massachusetts Public Access Board – Joan Kimball & Chris Carney

Boat ramp at Morgan Park in need of repair. (Section 1, 2 and 3)

Jack Sheppard of the DEM Public Access Board responded with a copy of the management plan the Department signed with the City of Worcester Parks and Recreation Department.

8. To Mass Highway Department

Send letter to Doug Fine (MADEP), with copies to Mass Highways, about Route 122A, requesting that MassHighway correct clogged culverts. Involve Representative Bob Spellane.

Massachusetts Highway Response: Received a letter from MHD on January 23, 2002 stating that MHD will "do their part and contribute to the overall restoration effort by reducing non-point source pollutants from State controlled roadways with the watershed as much as feasible. Accordingly, they will be stepping up the level of inspection, cleaning and maintenance on the roadways including: annual street sweeping; inspection and cleaning of all sumped drainage structures twice per year; inspection and cleaning of drainage outlet locations where sediment buildup is evident; and inspection and repair of damaged or clogged drainage conveyances.

9. To Shopping Centers

Send letter to shopping centers in section 13 requesting that clogged catch basins be cleaned and broken storm drains be fixed. Work with city council and conservation commission.

10. To Area Colleges and Schools

Send letter to involve them in watershed planning, water quality monitoring and pollution prevention projects.

B. SHORT TERM

(Items with an * are part of a long-term task.)

1. Development / Alternatives

Assumption College

Up to 8 acres of open space owned by Assumption College are slated for development, most likely athletic fields. Work with Assumption College officials to accomplish one of the following:

- A. Leave the land undeveloped as college open space and outdoor environmental classroom.
- B. See the land purchased as open space, possibly by the City or other Worcester area Land Trust.; or
- C. Influence the planning for the development so that changes made are watershed-friendly, including the use of erosion controls, construction of stormwater BMPs, leaving vegetated buffers and adequate setbacks and limit clear-cut areas to a minimum.

Note: The town of Ipswich has a new Bylaw regarding clear-cut issues – Anne Monnelly of DEM will provide information to the City Council.

Dodge Park / Greendale

Recommend to City Council, Conservation Commission, and the Open Space-Land Use Committee that steep, undeveloped areas of land in Section 13 (Dodge Park / Greendale) be saved as open space.

Indian Hill

Watchdog construction on Indian Hill for potential runoff and erosion violations; report to the Conservation Commission.

Watershed-wide

Monitor redevelopment throughout the watershed to foster watershed-friendly work.

2. Pond Health, Habitat and Dam Safety

***Kiver Pond and Kiver Pond Dam**

Kiver Pond has an abundance of wildlife but is experiencing water quality problems, including a sedimentation problem. Additionally, its dam / sluiceway appears to be in poor condition.

- a) Need to determine ownership of this dam as well as the regulations regarding this dam and its management. Consult Dave Clark of the Massachusetts Office of Dam Safety (MADEM) [508-792-7716]. Kiver Pond is thought to be owned by the Armenian Apostolic Church of 635 Grove Street.
- b) Long-term, there should be a study done to find ways the manage pond to decrease sediment loading and to maintain and improve existing habitat and upstream water quality.

3. Education

Initiate education programs for residents and businesses in the watershed with information on watershed friendly property maintenance and improvements, including topics such as:

- ? the importance and purposes of vegetative buffers along streams and lakeshore, to prevent runoff from lawns that extend right to the water (such as Delaney Brook);
- ? composting, including DPW's drop-off sites and reduced-cost home composting units;
- ? problems with dumping landscaping wastes & grass clippings in open waterways;
- ? lists of appropriate native plants for landscaping;
- ? lawn care: fertilizers & phosphorous;
- ? nonpoint source pollution.

Some local and state agencies already have brochures produced for these subjects, including the Worcester DPW newsletter, MADEM, Riverways, Brian Duval of MADEP. It was also suggested that residents could work with local lawn products stores to get them to carry low phosphorous fertilizers and have demo days with expert tips on low-impact landscaping.

Information would go out by special mailings or with existing mailings such as water and sewer bills.

4. Dumping / Trash

Conservation Land off Smith Lane

Create a plan to solve problems with dumping of trash and abandoned cars on this conservation land. Work with owners (Greater Worcester Land Trust) to prevent this dumping in the future, possibly by expanding access to encourage greater numbers of responsible users to visiting.

Original agreement with owner when land was donated was to leave land untouched- recreational users would need to seek written permission from the land trust to visit the site.

There are 59 acres at this site protecting the major tributary to Indian Lake. Study the current situation and find the best way to enhance protection, while respecting the intent of the original donor.

5. Water Quality

Water quality monitoring sampling sites

Continue testing of Indian Lake, Salisbury Pond and Weasel Brook. Add additional test site for nutrients below dam at Ararat Brook near Smith Lane.

C. LONG TERM

1. Sediment Control

Excessive sedimentation has been recognized as one of the major problems to waterways in the watershed. Control over this sedimentation is regarded as a highest priority, requiring coordination between city and state offices and agencies as well as the residents of the watershed. Both the Mill Brook Task Force and the Indian Lake Watershed Association have received separately grant money from the 319 Nonpoint Source Program through Massachusetts Department of Environmental Protection to install sediment removal devices in catch basins around Salisbury Pond and Indian Lake, respectively. To adequately control sediment runoff, however, will require a longer effort including improved stormwater management, elimination of erosion problems, increased vegetated buffers around water bodies, and other protection and restoration projects. Two specific actions towards this goal include:

Unpaved Roads

Reduction of sediments from unpaved streets in the watershed. This would include upgrading unpaved and poorly maintained private streets, which at this time would require financial investment from the homeowners. In many cases this would require investment by absentee landlords with no vested interest; better solutions need to be found. One of the highest priority streets is Hastings Avenue.

Kiver Pond

Conduct study on Kiver Pond to reduce sedimentation and maintain / improve habitat, and create a management plan. Implement management plan on Kiver Pond.

2. Water Quality

The ultimate goal of the action plan is to improve water quality in Indian Lake, Mill Brook, Salisbury Pond, and the contributing streams and ponds in the watershed. Work towards this goal is ongoing in many capacities: examples include the Blackstone Headwaters Monitoring Program (volunteer water quality monitoring) and the DPW's efforts to improve stormwater management and complete separation of sewer and stormwater systems. Continue watchdog efforts (visual observations, reporting), applying for grants, short term projects, and water quality monitoring where appropriate. On Indian Lake, it was felt that narrow culverts impeded flow such that water quality is degraded. Replacement with larger culverts at Sears Island and Little Indian Pond will be needed. Continue support for the Indian Lake Watershed Association and the Mill Brook Task Force and their projects, such as the 319 Nonpoint Source projects for which they have applied. Continue and build on the partnerships among watershed associations, and the partnerships have with municipal officials and state agencies.